

Application No. 09/681,008
Filing Date: November 15, 2000
Page 3 of 10

Stein and Montagu as applied to Claim 1 above and further in view of Olexa (U.S. Patent No. 6,262,838586) and Claim 18 over Stein and Montagu as applied to Claim 1 above and further in view of Polcyn et al. ('940) and Claims 19-20 over Stein and Montagu as applied to Claim 1 above and further in view of Krantz.

Specifically, the Patent Office asserts that Stein allegedly teaches "a multiscanning confocal microscope having a turntable (32) rotatable (Col. 2, line 65 – Col. 3, line5)", "a scanning head (42) for optically scanning the specimens to provide positional data and an optical scanning device (30) mounted upon arm (38) (Col. 3, lines 2-29)." Moreover, the Patent Office asserts that although "Stein does not teach said optical scanning device (30) is rotatable", Montagu allegedly teaches "a scanning microscope having a rotatable scanner mounted upon a carrying arm (32)(Col. 7, lines 27-32)." The Patent Office asserts that it allegedly "would have been obvious to an ordinary artisan to combine the teachings of Montagu and Stein" since Montagu allegedly "teaches improved auto-focusing for scanning microscope (Col. 3, lines 8-25)."

In addition, the Patent Office asserts that, regarding Claim 4, Montagu allegedly teaches that "the distance between the scanning device and the sample is held constant (Col. 8, lines 4-12)"; regarding Claim 5, Stein allegedly teaches "the regulation of the rotational speed of the specimen-receiving device and the rotation speed of the turntable dependent on each rotation of the arm (38) (Col. 3, lines 9-29)"; regarding Claim 6, Stein allegedly teaches "the rotation of the turntable being regulated by positional data (Col. 3, lines 30-42)"; regarding Claim 8, Stein allegedly teaches "the adaptability for one or more slides (4) (Col. 2, lines 65-67)"; regarding Claims 9-10, Stein allegedly teaches "a carousel-type sample holder" and that "it is not considered non-obvious to adapt said holder to be replaceable, since such inserts are common and expected in the art."; regarding Claim 13, Stein allegedly discloses "automatic focusing (Col. 5, lines 16-25)"; regarding Claim 14, Stein allegedly discloses "a deviation of 5 microns (Col. 5, lines 25-31)"; regarding Claim 15, Stein allegedly discloses "a laser source (2) and photo detector (12) (Col. 2, line 18; Col. 2, line 57)"; regarding Claim 16, Stein allegedly teaches "two dimensional scanning"; regarding Claim 17, Stein allegedly teaches "a stationary laser (2) (see fig. 1a)"; regarding Claim 13, Montagu allegedly teaches "tilting the sample to non-zero laser

Application No. 09/681,008
Filing Date: November 15, 2000
Page 4 of 10

incidence angle (Col. 5, lines 15-25)”; and regarding Claim 22, Stein allegedly teaches “two tracks or marks on the disk (Col. 3, lines 30-35).”

Moreover, regarding Claims 11-12, the Patent Office asserts that the allegedly “obvious combination of Stein and Montagu teaches the claimed invention except for a retaining means and resiliently positioning the sample”. The Patent Office further asserts that Olexa allegedly teaches “the resiliently positioning of a sample by the use of a spring clamp (or retaining means) (Col. 2, lines 55-61 of Olexa)” and that it allegedly “would have been obvious to an ordinary artisan to incorporate the teachings of Olexa into the obvious combination mentioned since Olexa teaches the use of spring clamps are widely known and expected (Col. 2, lines 60-61).” Regarding Claim 18, the Patent Office asserts that although the combination of Stein and Montagu allegedly “teaches the claimed invention except for the different wavelength laser source”, “Polcyn et al teaches the use of a laser source having different wavelengths (Col. 2, lines 14-39)” and that it allegedly “would have been obvious to incorporate the use of such a light source into the obvious combination since Polcyn teaches the advantage of generation of useful physical/chemical data (Col. 2, lines 45-56).” Regarding Claims 19-20, the Patent Office asserts that the allegedly “obvious combination teaches the claimed invention except for the axial and lateral ranges recited”, but that “Krantz teaches the recited range (Col. 8, lines 25-33) (i.e. a beam spot of 1 μ m and focus region of 100x100)” and that it allegedly “would have been obvious to an ordinary skilled artisan to incorporate the teachings of Krantz since Krantz teaches a common, conventional laser beam.” Applicant respectfully disagrees.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a *prima facie* case of obviousness. Thus the Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the prior art, that, in accordance with *In re Lee*, the prior art must contain a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made.¹

¹ *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996); *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

Application No. 09/681,008
Filing Date: November 15, 2000
Page 5 of 10

In this case, referring to Stein (Col. 2, line 65 – Col. 3, line 5) and Montagu (Col. 7, lines 27-32; Col. 3, lines 8-25), Applicants Attorney was unable to locate any teaching of an apparatus for optical scanning of multiple specimens which includes a specimen receiving device which defines an axis of rotation and which is rotatable about the axis of rotation and a scanning device, for optically scanning the specimens, such that the scanning device defines a further axis and is rotatable about the further axis, wherein the scanning device is movable relative to the specimen receiving device, as claimed in Applicants amended Claim 1. Moreover, Applicants Attorney has been unable to find any teaching or motivation to make both elements rotatingly and linearly movable. In fact, Applicant respectfully contends that Stein and Montagu provide a strict teaching that only one element is rotatable, thus teaching away from making both elements rotatingly and linearly movable, as claimed by Applicants amended Claim 1. Additionally, referring to Montagu (Col. 6, line 67 – Col. 7, line 3) Applicant respectfully contends that Montagu teaches that the arm should be as light as possible, thus teaching away from rotating the whole scanning device also as claimed by Applicants amended Claim 1. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 4 and referring to Montagu, Applicants Attorney has been unable to locate any teaching of holding the distance between the scanning device and the sample constant. In fact, referring to Montagu (Col. 8, lines 4-12), it should be clear that Montague discloses that a gap between a buttress and the top surface of a slide is typically 100 microns and that this gap is increased, thus not held constant as required by Applicants Claim 4, to greater than 300 microns to prepare for the removal of the old slide and the introduction of a new slide. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 5 and referring to Stein, Applicants Attorney has been unable to locate any teaching of rotation speed of the specimen receiving device being dependent on the relative position between the specimen receiving device and the scanning device as claimed in Applicants Claim 5. Referring to Stein (Col. 3, lines 4-12), it should be clear that Stein discloses providing two rates of advance of the arm radially across the zone of the turntable and that the modes of operation are related to the rotation of the disk where each rotation causes the

Application No. 09/681,008
Filing Date: November 15, 2000
Page 6 of 10

arm to move along the radius of the turntable. Applicant respectfully contends that this is not the same as rotation speed of the specimen receiving device being dependent on the relative position between the specimen receiving device and the scanning device as claimed in Applicants Claim 5. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 6 and referring to Stein, Applicants Attorney has been unable to locate any teaching rotation speed being dependent on the detected data stream of the scanning device as claimed in Applicants Claim 6. Referring to Stein (Col. 3, lines 30-42), it should be clear that Stein discloses determining the precise position of the disk at any time during its rotation. Applicants respectfully contend that this is not the same, or even suggestive, of specimen receiving device speed being dependent on the detected data stream of the scanning device, as claimed in Applicants Claim 6. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 8 and referring to Stein, Applicants Attorney has been unable to locate any teaching that the specimen receiving device receives a single, replaceable specimen vessel, as claimed in Applicants Claim 8. Referring to Stein (Col. 2, lines 65-67), it should be clear that Stein discloses that "the slide 4 or other object is one of a substantial number, for example 72, although it may be less or more, mounted in a ring on a turntable 32", which appears to teach away from the specimen receiving device receiving a single, replaceable specimen vessel, as claimed in Applicants Claim 8. Applicants respectfully contend that this is not the same, or even suggestive, of specimen receiving device receiving a single, replaceable specimen vessel. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 14 and referring to Stein, Applicants Attorney has been unable to locate any teaching of an auto focusing means to maintain the surface of the rotating specimen receiving device or of the specimen vessel or of the specimen holders located in the carousel insert always within a deviation of less than 20 μm in the direction of the optical axis of the scanning device, as claimed in Applicants Claim 14. Referring to Stein (Col. 5, lines 25-31), it should be clear that Stein discloses an oscillatory waveform applied to a focusing device such

Application No. 09/681,008
Filing Date: November 15, 2000
Page 7 of 10

that the focusing device moves up and down through a distance of 10 microns. Applicant respectfully contends that this is not the same, or even suggestive of using an auto focusing means to maintain the surface of the rotating specimen receiving device or of the specimen vessel or of the specimen holders located in the carousel insert always within a deviation of less than 20 μm in the direction of the optical axis of the scanning device, as claimed in Applicants Claim 14. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 17 and referring to Stein, Applicants Attorney has been unable to locate any teaching of a holding a laser beam stationary relative to the scanning device, as claimed in Applicants Claim 14. Referring to Stein (FIG. 1A), it should be clear that only a laser light source is disclosed. Applicant respectfully contends that there is no mention or suggestion that this source produces a laser beam that is stationary relative to the scanning device, as claimed in Applicants Claim 17. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claim 21 and referring to Montagu, Applicants Attorney has been unable to locate any teaching of a laser beam that defines a non-zero incidence angle on the surface of the specimen receiving device or the specimen vessel or the specimen holders, as claimed in Applicants Claim 21. Referring to Montagu (Col. 5, lines 15-25), it should be clear that Montagu teaches a microscope that "is constructed and arranged to scan in a direction transverse to the radial direction of the tiltable member." Applicant respectfully contends that there is no mention or suggestion that a laser beam defines an non-zero incidence angle on the surface of the specimen receiving device or the specimen vessel or the specimen holders, as claimed in Applicants Claim 21. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Regarding Claims 19-20 and referring to Krantz, Applicants Attorney has been unable to locate any teaching of a laser beam that has an axial extent of the focus region in the specimen region of less than 40 μm , as claimed in Applicants Claim 19 or of any teaching of a laser beam that has a lateral extent of the focus region in the specimen region in a range between 5 μm and 200 μm , as claimed in Applicants Claim 20. Referring to Krantz (Col. 8, lines 25-33), it should

Application No. 09/681,008
Filing Date: November 15, 2000
Page 8 of 10

be clear that Krantz discloses that a "focused spot size is typically less than about 1.0 μ m. For 100 nm pixel size, 0.5 gm spot size at Nyquist sampling, 3.2 gm spot separation with a 32x32 spot array, the field size at the objective lens about 100x100 μ m and the sidelobe noise is below 1 grayscale." Applicant respectfully contends that there is no mention or suggestion that a laser beam has an axial extent of the focus region in the specimen region of less than 40 μ m or of a laser beam that has a lateral extent of the focus region in the specimen region in a range between 5 μ m and 200 μ m, as claimed in Applicants Claims 19-20. The Patent Office is kindly requested to provide column and line numbers containing such alleged teachings or suggestions.

Moreover, Claim 6 depends from Claim 5, Claims 11-12 depend from Claim 10 which depends from Claim 9, Claim 22 depends from Claim 14 which depends from Claim 13, Claims 16-21 depend from Claim 15 and Claims 2-5, 8, 9, 13, and 15 depend from Claim 1 and because Claim 1 is patentable over Stein in view of Montagu, Claims 2, 4-6 and 8-22 are patentable over Stein in view of Montagu. Furthermore, Claims 11-12 depend from Claim 10 which depends from Claim 9 which depends from Claim 1 and because Claim 1 is patentable over Stein and Montague as applied to Claim 1 and further in view of Olexa, Claims 11-12 are patentable over Stein and Montague as applied to Claim 1 and further in view of Olexa. Also, Claim 18 depends from Claim 15 which depends from Claim 1 and because Claim 1 is patentable over Stein and Montagu as applied to Claim 1 and further in view of Polcyn, Claim 18 is patentable over Stein and Montagu as applied to Claim 1 and further in view of Polcyn. In addition, Claims 19-20 depend from Claim 15 which depends from Claim 1 and because Claim 1 is patentable over Stein and Montagu as applied to Claim 1 and further in view of Krantz, Claims 19-20 are patentable over Stein and Montagu as applied to Claim 1 and further in view of Krantz.

In light of the above discussion, Applicant respectfully contends that the Patent Office has not satisfied the burden of establishing a prima facie case of obviousness. As such, Applicant respectfully request that the Patent Office reconsider and withdraw its rejections and place Applicants file in condition for allowance.

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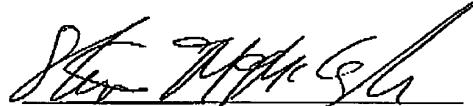
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Application No. 09/681,008
Filing Date: November 15, 2000
Page 9 of 10

CONCLUSION

In accordance with 37 CFR 1.21 (c)(1)(ii) a marked up version of the amended specification and claims are attached to this response. For the foregoing reasons, Applicant believes that this application has now been placed in condition for allowance and respectfully requests that the Patent Office withdraw their objections and rejections.

Respectfully submitted,



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Application No. 09/681,008
Filing Date: November 15, 2000
Page 10 of 10

MARKED UP CLAIMS

In the Claims:

Please amend Claims 1 and 15 as shown in marked-up form below:

1. (Amended) An apparatus for optical scanning of multiple specimens comprising:

a specimen receiving device for holding the specimens, the specimen receiving device defining an axis of rotation and being rotatable about the axis of rotation; and

a scanning device provided for optically scanning the specimens, the scanning device defining a further axis and being rotatable about the further axis, the scanning device being arranged movably relative to the specimen receiving device.

15.(Amended) The apparatus as defined in Claim 1, wherein at least one laser beam is provided for scanning the specimens and at least one detector detects [the light reflected from the specimens] fluorescent light from the specimen.

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